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(71) Applicant : **ACUSHNET COMPANY**  
**Belleville Avenue**  
**New Bedford, Massachusetts 02742 (US)**

(72) Inventor : **Aoyama, Stephen**  
**P.O. Box 932**  
**Marion, MA 02738 (US)**

(74) Representative : **Carmichael, David Andrew**  
**Halliday et al**  
**G.F. REDFERN & CO. Marlborough Lodge, 14**  
**Farncombe Road**  
**Worthing, West Sussex BN11 2BT (GB)**

(54) **Golf glove.**

(57) The golf glove uses a silent fastener as its closure means and has elastic material (44-48) attached to the back side of the glove. Ventilation slits are provided in the silent fastener so as to alleviate sweating.

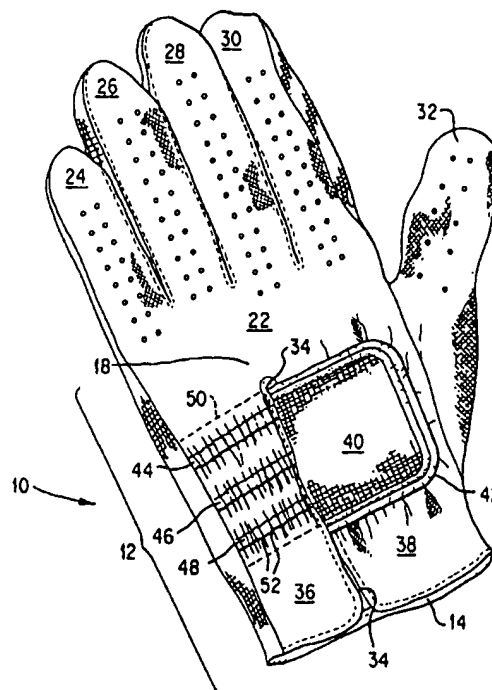


FIG. 1

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This invention relates to a glove and more particularly to a glove used in sporting events where the glove provides a skin-tight fit and a high quality grip for its user. The glove is especially suited for golf.

Typically, golfers wear golf gloves on the hand which grips the club uppermost on the shaft. The purpose of the glove is to improve grip and to avoid calluses and blisters.

Typically, VELCRO fasteners are used to adjust the tightness of the glove on the user's hand. Additionally, the use of elastic material in conjunction with a VELCRO fastener has also been suggested, see U.S. Patent Re. 31,538 dated March 20, 1984.

VELCRO fasteners are made of two parts, a hooked touch fastening material adapted to releasably engage a mating surface, and the mating surface. One of the main advantages of VELCRO fasteners is the unlimited adjustment available to the user. As long as there is some alignment between the hooked touch fastener material and the mating surface, the material functions as a fastener.

One problem associated with golf gloves that employ VELCRO fasteners is the lack of ventilation for the user's hand in the area where the hooked touch fastener material and the mating surface are affixed to the glove. Since there is restricted ventilation due to the layers of material present, this area on the back of the hand typically sweats more profusely than other portions of the back of the hand. Additionally, other areas of the hand are affected by the sweat generated on the back of the hand by the VELCRO fastener.

Another problem associated with VELCRO fasteners on golf gloves is noise. Whenever the golfer separates the touch fastener material from the mating surface, a loud ripping noise penetrates the immediate surroundings. Such separation is typically associated with removing the glove from the hand or adjusting the tightness of fit. The distinctive ripping sound made by a VELCRO fastener when the hooked touch fastener material is separated from the mating surface easily breaks the concentration of fellow players. Additionally, it is recognized as being annoying to the user and out-of-place in the sanctity of the golf green.

The present invention relates to a new golf glove wherein a silent VELCRO fastener is used as a means to tighten the glove on the wrist thereby eliminating a number of the drawbacks associated with conventional VELCRO fasteners. Additionally, ventilation slits are preferably provided in the VELCRO fastener to alleviate the perspiration problem associated with conventional golf gloves. More specifically, the present invention is an athletic glove comprising:

- a) a hollow flexible body member having an access opening, a front portion and a back portion;
- b) said front portion including a palm area and said back portion including a knuckle area;

c) four finger glove stalls and one thumb glove stall attached to and projecting from said hollow flexible body member opposite said access opening;

d) a vent in the back portion of said body member, said vent extending from said access opening to said knuckle portion, said vent dividing said back portion into one side and another side;

e) a touch fastener material attached to and extending from one side of said back portion adjacent to said vent and a complementary mating surface attached to said other side of said back portion and adjacent to said vent for releasably engaging said touch fastener material;

f) elastic members attached to said one side of said back portion and providing an elastic force primarily in an axis that is perpendicular to the axis of the vent; and

g) said touch fastener material comprising:

- (1) a planar backing material having an engaging surface thereon, and extending therefrom at discrete points and adapted to releasably engage the mating surface; and
- (2) the backing material comprising a lattice structure having low ability to transfer vibrations induced therein into the air surrounding it, thereby providing means for reducing the coupling of noise-producing vibration from said backing material into the surrounding air upon separation of said touch fastener material.

At least one ventilation slit is provided in both the touch fastener material and the mating surface. The ventilation slits extend through both the glove and the touch fastener material and mating material so as to provide ventilation for the user's hand. Preferably, these ventilation slits have an axis that is substantially perpendicular to the direction of the finger stalls. Alternatively, the ventilation slit on either the touch fastener material or the mating surface has an axis that is substantially perpendicular to the direction of the finger stalls while the other has an axis that is substantially parallel to the direction of the finger stalls.

Preferably, the golf glove of the present invention has elastic material positioned around the glove to eliminate any puckering or bunching when the vent opening has been closed by appropriate fasteners.

The elastic material embedded in the back portion of the glove body is preferably positioned perpendicular to the direction of the finger stalls and between the knuckles and the wrist just opposite the vent portion of the glove. This placement of the embedded elastic has been found to minimize any bunching or puckering when the glove is securely fastened on the hand. Elastic elements attached along diagonal lines drawn respectively from the base of the knuckles of the small 5 finger and index finger to the opposite sides of the wrist have been found to almost

approximate the fit achieved by perpendicular embedded elastic.

Elastic elements are also preferably positioned substantially perpendicular to the direction of the finger stalls in the knuckle area above the end of the vent. Additionally, elastic elements are preferably positioned substantially perpendicular to the direction of the finger stalls at the wrist, preferably extending from one side of the vent around the back portion of the glove, across the front portion of the glove and continuing on around the back portion to end at the other side of the vent. The elastic element at the wrist is in close proximity to the access opening.

The silent VELCRO fastener used in accordance with the present invention is made in accordance with U.S. Patent 4,776,068 issued October 11, 1988. The teachings of the '068 patent are incorporated herein by reference. The touch fastener material is adapted to releasably engage a mating surface and adapted to produce reduced sound during rapid separation of the touch fastener material from the mating surface. The material comprises a planar backing material having an engaging surface thereon contacting the backing material at discrete points and adapted to releasably engage the mating surface and means for reducing the coupling of noise-producing vibration from the backing material into the surrounding air. The backing material has a high mass relative to the mass of the engaging surface; a planar high mass supplemental backing material bonded to the backing material; a flexible, high mass material incorporated into the backing material; means disposed at the discrete points of attachment of the engaging surface to the backing material for suppressing the coupling of vibrations produced in the engaging surface into the backing material; and the backing material comprising a lattice structure having low ability for transferring vibrations induced therein into the air surrounding it.

These and other aspects of the present invention may be more fully understood by reference to the following drawings wherein:

Fig. 1 illustrates a preferred golf glove for the left hand of the present invention, backside;

Fig. 2 illustrates the front side of the preferred golf glove of Fig. 1;

Fig. 3 illustrates another preferred embodiment of the present invention;

Fig. 4 illustrates yet another preferred embodiment of the present invention;

Fig. 5 illustrates still another preferred embodiment of the present invention;

Fig. 6 illustrates still another preferred embodiment of the present invention; and

Fig. 7 illustrates the front of the glove in Fig. 6.

Referring to both Figs. 1 and 2, glove 10 has a hollow flexible body member 12. Body member 12 has access opening 14 and front portion 16 and back portion 18. Front portion 16 has palm area 20 and back

portion 18 has knuckle area 22. Four finger stalls 24, 26, 28 and 30 and thumb stall 32 attach to and project from body portion 12. Vent 34 is located in back portion 12. Vent 34 divides back portion 12 into two sides 36 and 38.

Touch fastener material 40 is attached to side 36 and extends from side 36 to releasably engage complementary mating surface 42 which are attached to side 38. Attached to side 36 is elastic members 44, 46 and 48. The pull from elastic members 44, 46 and 48 is essentially perpendicular to the axis of vent 34. It will be understood by those of skill in the art that elastic members 44, 46 and 48 are positioned inside the glove and only the thread which attaches the elastic member to the inside of the glove is visible. Alternatively, instead of using three elastic members as shown in Fig. 1, two elastic members can be used or one elastic member which extends from dotted line 50 to dotted line 52 can be used.

Fig. 3 illustrates another preferred embodiment of the present invention. Back portion 60 is divided by vent 62 into one side 64 and another side 66. Elastic member 68 is attached to side 64. Attached to elastic member 68 is oval ring 70. Attached to side 66 is patch 72. Patch 72 has touch fastener material 74 attached to the movable end and complementary mating material 76 attached and laying flat on side 66. As is shown, in order to tighten the glove the movable end patch 72 is fed through ring 70 and drawn through until the glove is tight and then touch fastener 74 is pressed to mating area 76 to secure the glove.

Fig. 4 illustrates a golf glove substantially as shown in Figs. 1 and 2 except that touch fastener material 80 has been bent back exposing mating surface 82. Ventilation slits 84, 86 and 88 are shown in touch fastener 80 while ventilation slits 90, 92 and 94 are shown in mating surface 82. Tacks 96 and 98 are shown. Tack 96 helps to hold and align touch fastener material to the glove material. Likewise, tacks 98 help to hold the mating material to the glove material. Ventilation slits 84, 86, 88, 90, 92 and 94 are substantially perpendicular to the direction of finger stalls 24, 26, 28 and 30. It will be appreciated by those of skill in the art that both the touch fastener material and the mating material will be preferably sewn to the glove material around the edges as shown in Fig. 4.

Fig. 5 illustrates a golf glove as substantially shown in Fig. 4 except that ventilation slits 102 and 104 in mating material 106 run substantially parallel to the direction of finger stalls 24, 26, 28 and 30 while ventilation slits 106, 108 and 110 in touch fastener material 112 are substantially perpendicular to finger stalls 24, 26, 28 and 30. Additionally, the edges of each ventilation slit have been reinforced in a manner similar to that of a button hole with bar tacks and zig-zag stitching.

Figs. 6 and 7 illustrate a golf glove substantially as shown in Figs. 1 and 2 respectively except that

knuckle elastic 120 is attached to knuckle area 22 and wrist elastic 122 is attached to both the front and back of the glove. Knuckle elastic 120 holds the glove snugly in the knuckle area while wrist elastic 122 provides a snug fit of the glove around the wrist.

The ventilation slits in the touch fastener material and the mating material, whether both are oriented in the same axis as shown in Fig. 4 or in different axes as shown in Fig. 5, should have some overlap such that air from outside the glove passes directly to the back portion of the user's hand.

It will be understood that the claims are intended to cover all changes and modifications of the preferred embodiments of the invention herein chosen for the purpose of illustration which do not constitute a departure from the spirit and scope of the invention.

#### Claims

1. A golf glove comprising:
  - a) a hollow flexible body member having an access opening, a front portion and a back portion;
  - b) said front portion including a palm area and said back portion including a knuckle area;
  - c) four finger glove stalls and one thumb glove stall attached to and projecting from said hollow flexible body member opposite said access opening;
  - d) a vent in the back portion of said body member, said vent extending from said access opening to said knuckle portion, said vent dividing said back portion into one side and another side;
  - e) a touch fastener material attached to and extending from one side of said back portion adjacent to said vent and a complementary mating surface positioned on said other side of said back portion and adjacent to said vent for releasably engaging said touch fastener material;
  - f) elastic members attached to said one side of said back portion and providing an elastic force primarily in an axis that is perpendicular to the axis of the vent; and
  - g) said touch fastener material comprising:
    - (1) a planar backing material having an engaging surface thereon, and extending therefrom at discrete points and adapted to releasably engage the mating surface; and
    - (2) the backing material comprising a lattice structure having low ability to transfer vibrations induced therein into the air surrounding it, thereby providing means for reducing the coupling of noise-producing vibration from said backing material into

the surrounding air upon separation of said touch fastener material.

2. The golf glove of claim 1 wherein said touch fastener material has at least one ventilation slit and said mating surface has at least one ventilation slit.
3. The golf glove of claim 1 further comprising a knuckle elastic member attached to one side of said back portion and providing an elastic force primarily in an axis that is perpendicular to the axis of the finger stalls.
4. The golf glove of claim 1 further comprising a wrist elastic member attached to one side of said glove in close proximity to said access opening and providing an elastic force primarily in an axis perpendicular to the axis of the vent.

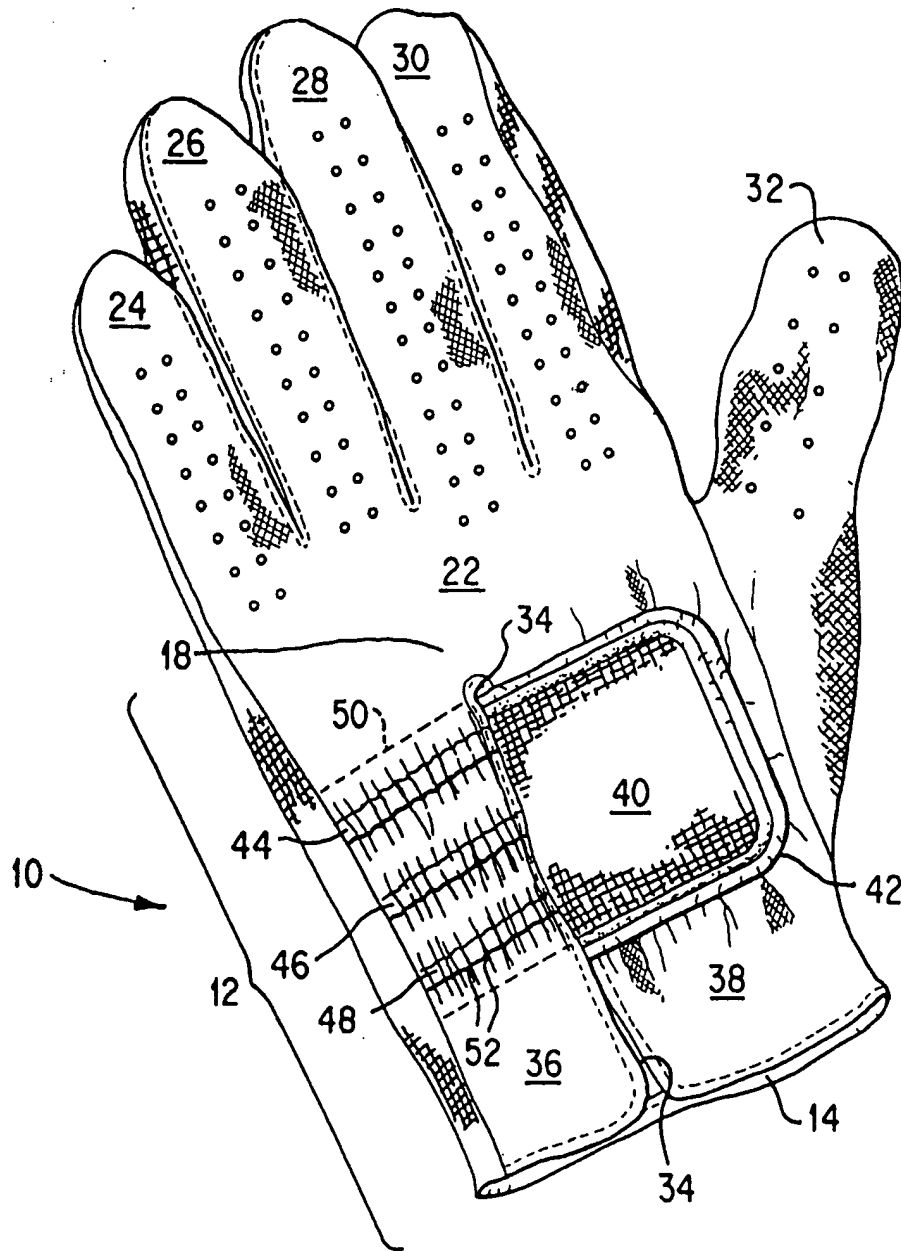


FIG. 1

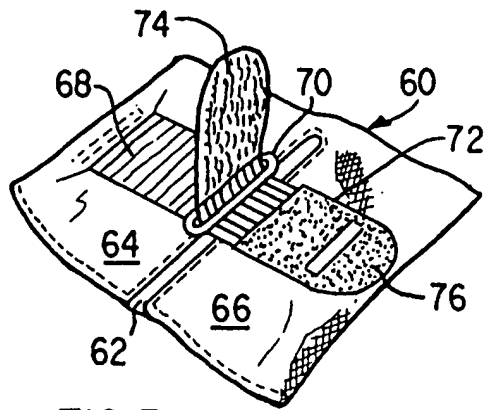


FIG. 3

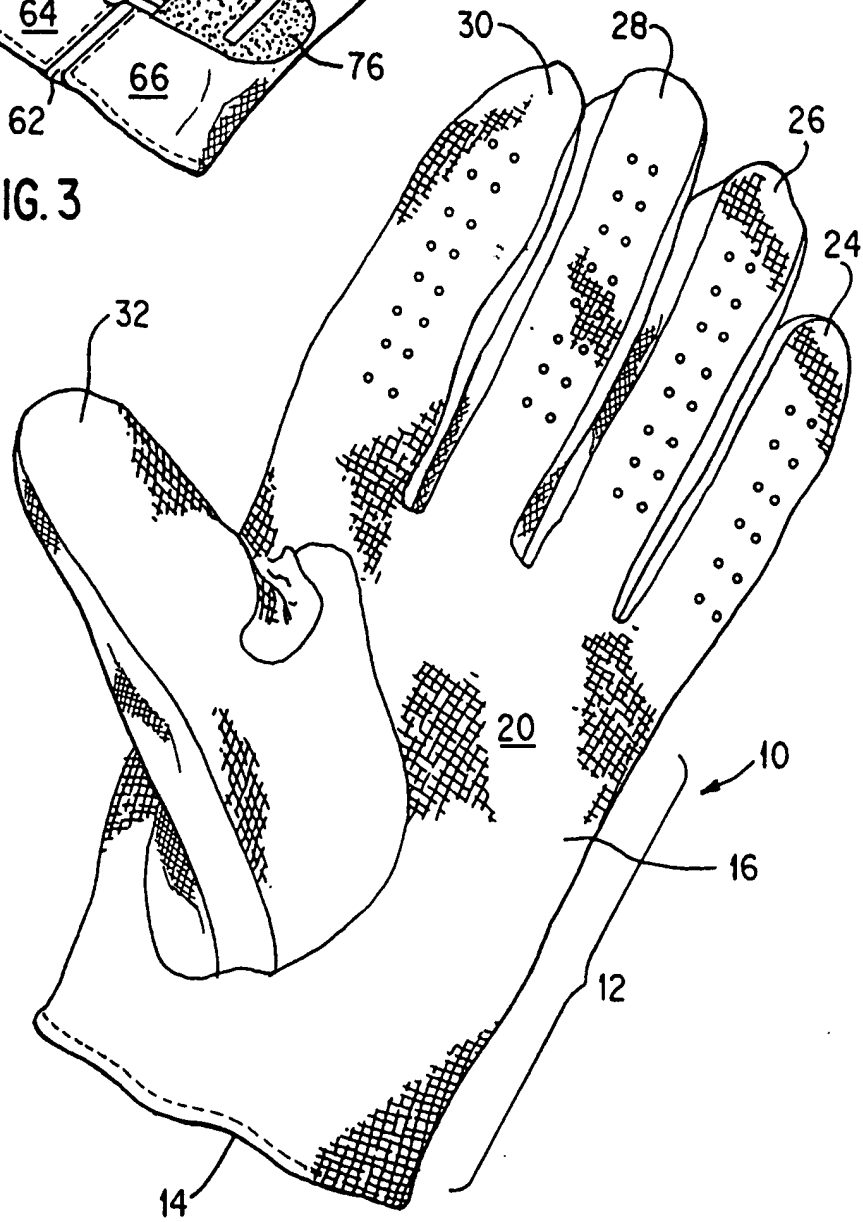


FIG. 2

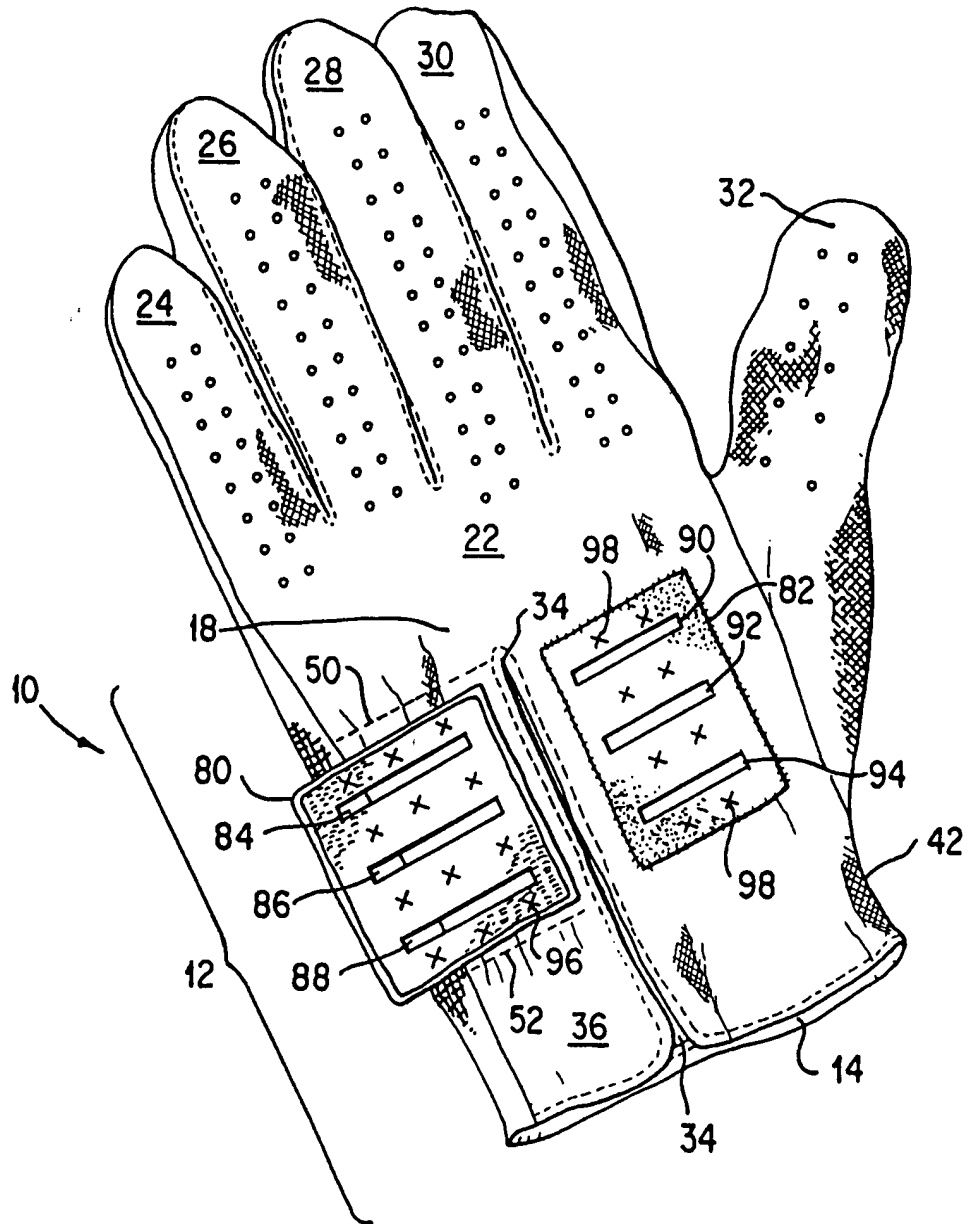


FIG. 4

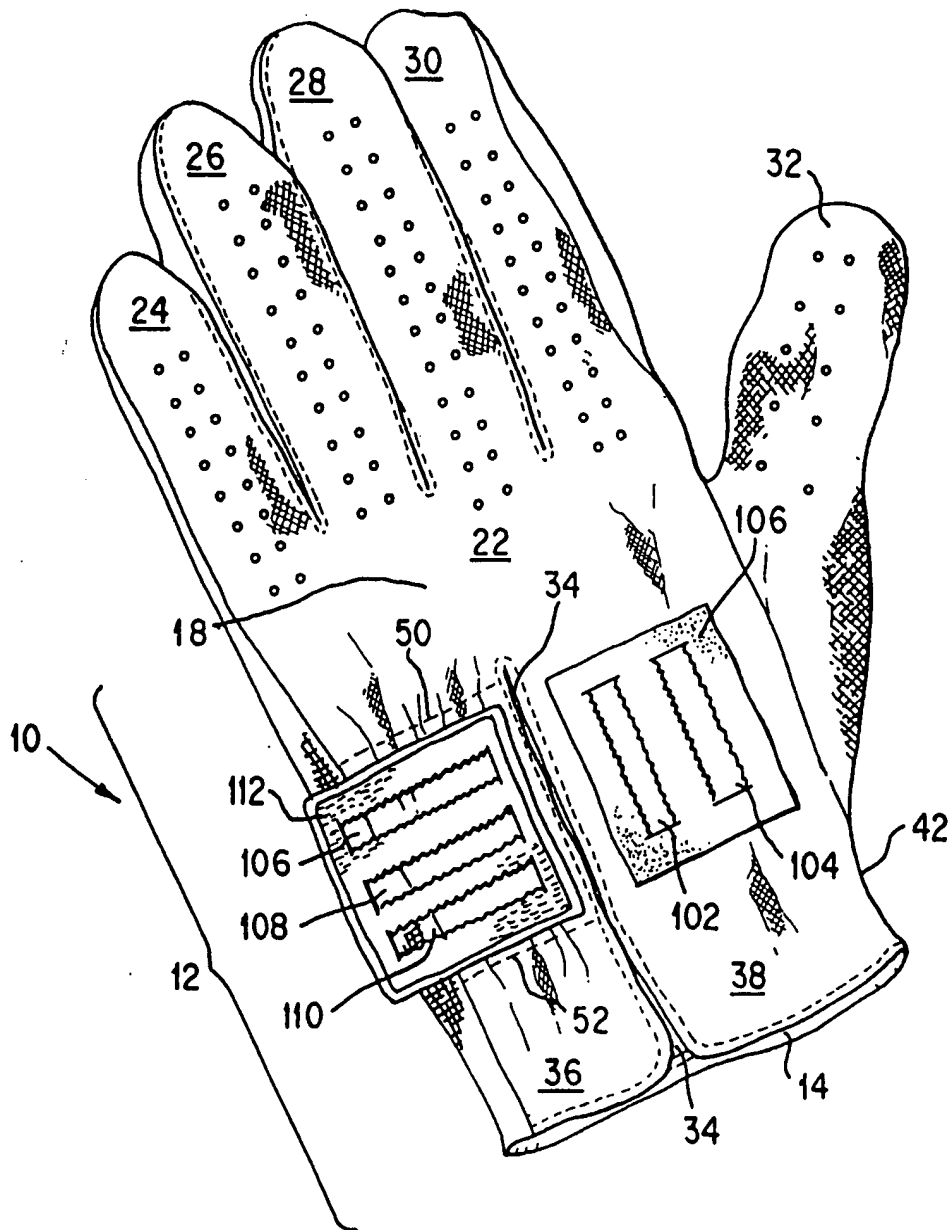


FIG. 5



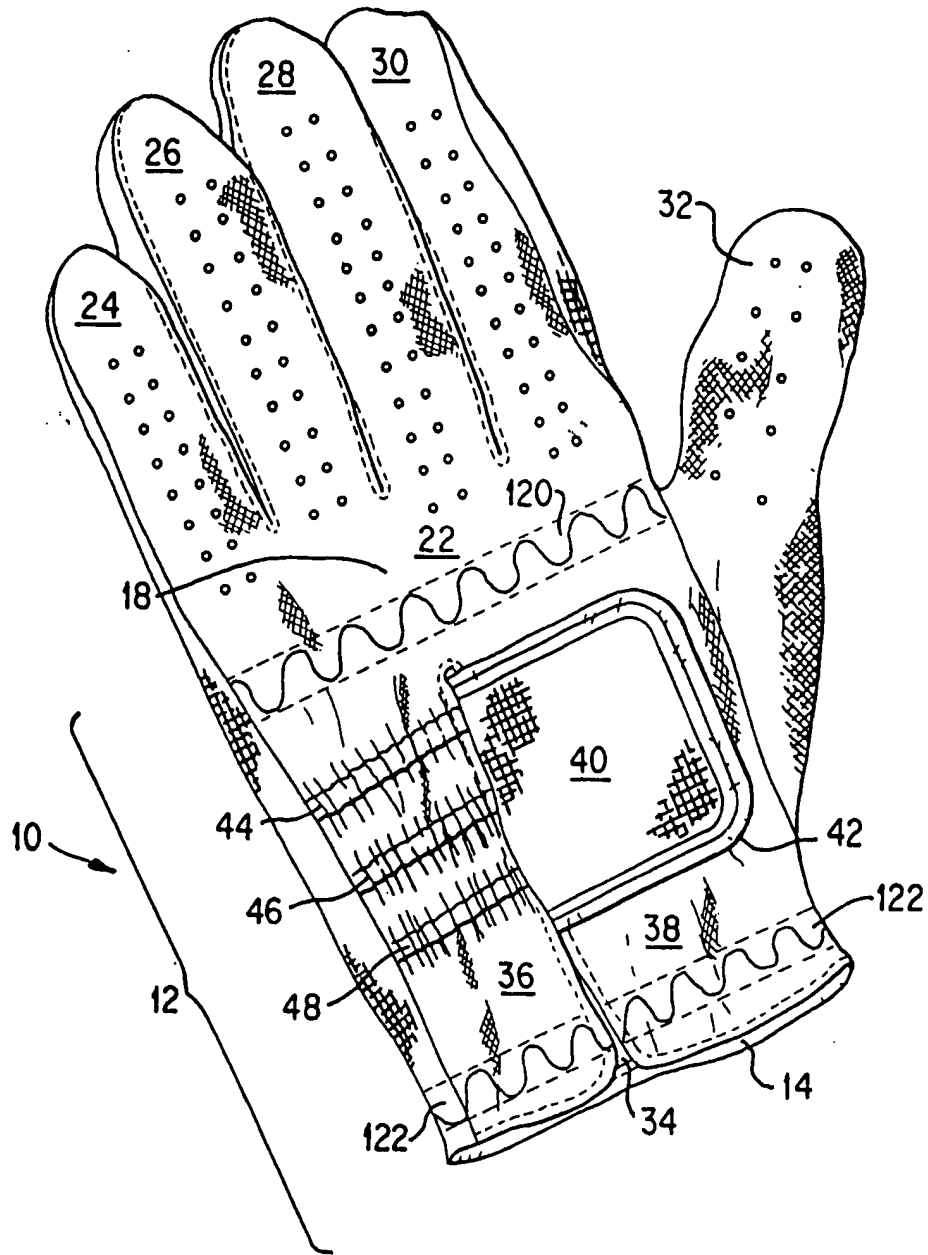


FIG. 6

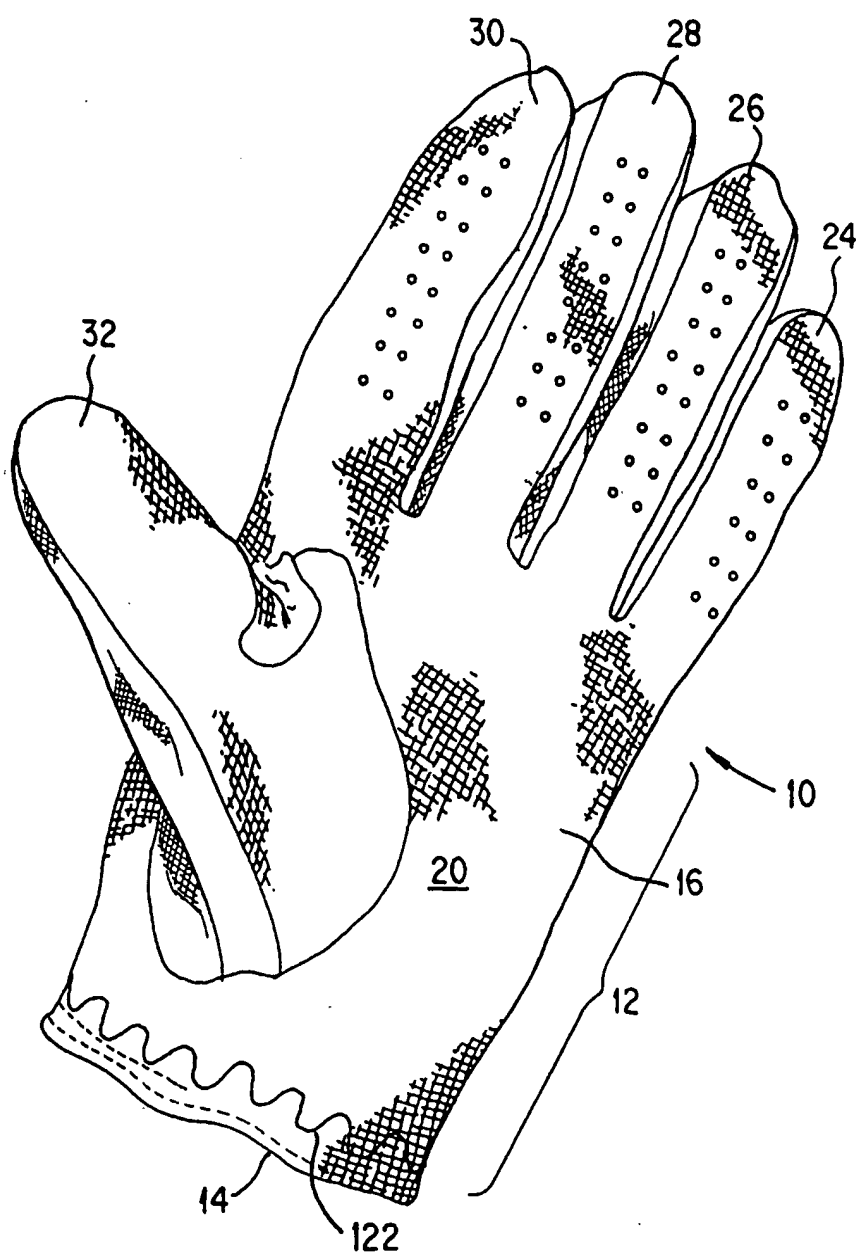


FIG.7



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# EUROPEAN SEARCH REPORT

Application Number

EP 91 30 9727

| DOCUMENTS CONSIDERED TO BE RELEVANT   |   |   |   |
|---|---|---|---|
| Category  | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim   | CLASSIFICATION OF THE APPLICATION (Int. Cl.5) |
| Y   | US-A-3 372 401 (E. M. WOODWARD)   | 1   | A41F1/06                                      |
| A   | * column 2, line 39 - column 3, line 50; figures 1-4 *                        | 4   | A41D13/10                                     |
|   | ---   |   |   |
| Y   | EP-A-0 265 155 (ACTIEF N. V. ABN)   | 1   |   |
|   | * claims 1-6 *  |   |   |
| D   | & US-A-4 776 068  |   |   |
|   | ---   |   |   |
| A   | US-A-3 952 333 (I. FUJITA)  | 1,3,4   |   |
|   | * column 3, line 1 - column 4, line 55; figures 4-10 *                        |   |   |
|   | ---   |   |   |
| A,D   | US-E-31 538 (A. J. ANTONIOUS)   | 1,3   |   |
|   | * column 3, line 54 - column 4, line 49; figures 1-3 *                        |   |   |
|   | ---   |   |   |
| A   | US-A-4 639 947 (R. LANSCIONI)   | 1   |   |
|   | * column 3, line 37 - column 5, line 24; figures 1-7 *                        |   |   |
|   | ---   |   |   |
| A   | US-A-4 042 977 (A. J. ANTONIOUS)  | 1   | TECHNICAL FIELDS SEARCHED (Int. Cl.5)         |
|   | * column 3, paragraph 3 - paragraph 5; figures 6,8 *                          |   |   |
|   | ---   |   |   |
| A   | FR-A-2 237 594 (PATAX TRUST REG)  | 2   | A41F  |
|   | * page 6, line 2 - line 18; claims 1,6,7; figures 5,9 *                       |   | A41D  |
|   | -----   |   | A44B  |
| The present search report has been drawn up for all claims  |   |   |   |
| Place of search<br>THE HAGUE  |   | Date of completion of the search<br>10 JANUARY 1992   | Examiner<br>GARNIER F.M.A.C.                  |
| CATEGORY OF CITED DOCUMENTS   |   | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>I : document cited for other reasons<br>-----<br>& : member of the same patent family, corresponding document |   |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |   |   |   |

EP 0 482 873 A1 (91/30/9727)